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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,340	09/23/2003	Stefan Preijert	0173.038.PCUS01	2339
65858 7590 12/31/2008 NOVAK DRUCE AND QUIGG LLP (Volvo) 1000 LOUISIANA STREET FIFTY-THIRD FLOOR HOUSTON, TX 77002			EXAMINER COZART, JERMIE E	
			ART UNIT 3726	PAPER NUMBER
			MAIL DATE 12/31/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/605,340	Applicant(s) PREIJERT ET AL.	
	Examiner Jermie E. Cozart	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-25 and 28-35 is/are rejected.
- 7) ☒ Claim(s) 26 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/16/08 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 35 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 35, the second blank (14) is described as being "*substantially flat in that it lacks a cavity but that otherwise matches the contours of an upper, joining surface of the first blank,*" however, as depicted in figure 2, the blank (14) is clearly shown as having a recess/cavity and therefore is not substantially flat as described in claim 35. Appropriate correction is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 35 recites the limitation "it" in line 12 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 18-25 and 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al. (2,674,783) in view of Lee et al. (5,934,544).

Regarding **claim 18**, Schneider discloses a method for producing a vehicle axle (11) by heating (col. 5, lines 29-32) the blank (35) to a working temperature (1800 °F; col. 5, line 31); feeding the first blank (13) to a forging press (see Fig. 15 and 16) having a number of cooperating die pads (85, 41), and working the first blank (13) by die forging to form a substantially finished product having a cross section substantially in the form of a hat profile of predetermined height, width and material thickness along a length thereof; placing in connection with the hat profiled first blank (13), a second blank (12) having essentially the same profile as the hat profile of the first blank (13) in the dividing plane of the cooperating die pads; and joining (col. 7, line 74 – col. 8, line 4) the

first (13) and the second blank (12) together, at respective edges thereof, and forming a composite vehicle axle.

Regarding **claim 19**, Schneider discloses at least the first blank (13) being forged vertically (col. 5, lines 55-70) with respect to a principal plane in which the composite vehicle axle is intended to be used.

Regarding **claim 20**, Schneider discloses the forging operation comprising a first step (col. 5, lines 55-70) in which a pair of first cooperating die pads form the material in the first blank (13) such that the first blank material acquires a predetermined, varying height in a vertical plane along a longitudinal extent thereof and the first blank further acquires a basic principal shape in the principal plane in which the composite vehicle axle is intended to be used.

Regarding **claim 21**, Schneider discloses the forging operation further comprises an additional step in which a pair of second cooperating die pads (col. 6, lines 5-11) form the material in the first blank (13) to a predetermined, varying thickness along a side surface, bottom surface and upper edge surface of the profile along a longitudinal extent thereof.

Regarding **claim 22**, Schneider disclose the additional step of the forging operation is repeated at least one time in successive die pads until the first blank (13) has acquired a final shape.

Regarding **claim 23**, Schneider discloses that the second blank (12) being preformed in one of a separate forging operation to have substantially the same profile (13) as the hat profile of the first blank in a dividing plane of the die pads.

Regarding **claim 24**, Schneider discloses the first and the second blanks (13, 12) are formed in a joint forging operation (col. 7, lines 3-14) in which the second blank is formed to the same profile as the hat profile of the first blank in a dividing plane of the die pads.

Regarding **claim 28**, Schneider discloses further comprising: cutting flashes (col. 8, lines 19-20) along the joined edges of the profile in the same operation as for joining together the first and second blank, the profile acquiring a predetermined varying width along a longitudinal extent thereof.

Regarding **claim 29**, Schneider discloses the vehicle axle comprises a first section (35, 36) having a cross section substantially taking the form of a hat profile of a predetermined, varying width, height and material thickness along a length thereof and a second section (15) having an essentially constant material thickness and being joined together with the first section along side surfaces of the hat profile.

Regarding **claim 30**, Schneider discloses the vehicle axle is constructed from a micro alloyed steel (i.e. SAE 1035 steel; col. 5, lines 12-23).

Regarding **claim 31**, the vehicle axle in Schneider appears to constitute a front axle beam (see Fig. 1).

Regarding **claim 34**, Schneider discloses directing a first blank (13) to a working temperature; feeding the first blank (13) to a forging press having a number of cooperating die pads, and working the first blank (13) by die forging to form a substantially finished product having a cross section substantially in the form of a hat profile of predetermined height, width and material thickness along a length thereof;

placing in connection with the hat profiled first blank (13), a second blank (12) having a substantially constant material thickness; and joining the first (13) and the second blank (12) together at respective edges thereof and forming a composite vehicle axle (see Fig. 1), with the second blank (12) forming a lid for the first blank (13).

Schneider, however, does not disclose the following: directing the first blank between a pair of rollers having profiled surfaces thereby forming the first blank into an intermediate product having a predetermined profile along a longitudinal extent thereof; joining the blanks together by forge welding; a maximum material thickness of the front axle beam is obtained in connection with fastening points and regions which are to be subjected to external forces and moments; or the cross section of the front axle beam has essentially the same outer contours in both the vertical and horizontal planes as a conventionally forged, solid beam.

Lee discloses directing a first blank (18) between a pair of rollers (102, 104) having profiled surfaces thereby forming the first blank into an intermediate product having a predetermined profile along a longitudinal extent thereof, in order to roll form the blank into a vehicular structural member having the desired shape. *See column 3, line 65 – column 4, line 2, and figure 6A for further clarification.*

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to direct a first blank of Schneider between a pair of rollers having profiled surfaces, in light of the teachings of Lee, in order to form the blank into a vehicular structural member having the desired shape.

Regarding **claim 25**, Schneider/Lee discloses seam welding the blanks together.

Schneider/Lee does not disclose forge welding.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to join the first and second blanks of Schneider/Lee by forge welding because Applicant has not disclosed that joining the first and second blanks by forge welding provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with seam welding taught by Schneider/Lee because the blanks are effectively joining to one another.

Therefore, it would have been an obvious matter of design choice to modify Schneider/Lee to obtain the invention as specified in claim 25.

Regarding **claims 32 and 33**, these limitations have not been given patentable weight because they are structural limitations which do not affect the method in a manipulative sense.

Response to Arguments

9. Applicant's arguments with respect to claims 18-20 and 23 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments, see pages 1-2, filed 12/16/08, with respect to the rejection(s) of claim(s) 18-20 and 23 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Schneider et al. (2,674,783) in view of Lee.

Response to Amendment

11. The Declaration under 37 CFR 1.132 filed 12/16/08 is sufficient to overcome the rejection of claims 18-20 and 23 based upon Winkler et al. (3,793,703) in view of Bielefeldt (3,697,725) and Lee et al. (US 5,934,544).

Allowable Subject Matter

12. Claims 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermie E. Cozart whose telephone number is 571-272-4528. The examiner can normally be reached on Monday-Thursday, 7:30 am - 6:00 pm.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jermie E Cozart/
Primary Examiner, Art Unit 3726

December 30, 2008